

Dancing with the Stars: Sibling (A)synchronous Dance, Culture and Cooperation

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BACKGROUND

- Past literature found a positive correlation between sibling prosociality and musical play (Cirelli, Peiris et al., 2020)
- When infants and young children move in synchrony with other children they are unfamiliar with, they are later more prosocial with one another (Cirelli, 2018; Rabinowitch & Meltzoff, 2017)
- Little is known about how cultural differences in feelings around children's musical play shape early musical engagement, although limited research points to cultural effects (Kirschner & Ilari, 2013)

RESEARCH QUESTIONS

- Do young siblings dance together more and later cooperate more after listening to synchronous vs. asynchronous music?
- Does culture affect the siblings' likelihood to freely dance?

METHOD

PARTICIPANTS

- 3- and 5-year-old siblings, target $N = 80$ (40 sibling pairs)

PROCEDURE

- Participants will come into the lab and enter the spaceship-styled sound booth with wireless headphones and have a "silent disco astronaut party" in which they dance together for up to one minute for each song
- Sibling dyads will be randomly assigned into synchronous or asynchronous conditions
- Afterwards, siblings will complete a cooperation task where a reward will be displayed on a screen in front of them if they both press a button together at the same time
- Parents will fill out questionnaires about the siblings' relationship, their musical play at home, and how their culture views dance

Synchronous

Silent Disco Astronaut Party

- 6 song excerpts, ~1 minute of dance for each song
- Songs are well-known children's songs that are 90 to 150 bpm
- Both siblings listen to the same songs at the same time



Asynchronous

Silent Disco Astronaut Party

- 6 song excerpts, ~1 minute of dance for each song
- Songs are well-known children's songs that are 90 to 150 bpm
- Both siblings listen to different songs



Cooperation Task

4 trials, participants will be timed

- Both siblings must press a button together at the same time to receive a rewarding stimulus



Questionnaires

Parents will fill out the following questionnaires:

- **Parental Expectations and Perceptions of Children's Sibling Relationships Questionnaire:** sibling relationship and competition (Kramer & Baron, 1995)
- **Music@Home Preschool Questionnaire:** interaction between child and parent in musical activities, filled out once for each child (Politimo et al., 2018)
- Their culture's views and amount of encouragement towards recreational dance

EXPECTED RESULTS

THE MEASURES

- **Dance party** will be video recorded and coded to measure dance duration, distance between the siblings, dancing alone vs. together, looking time at each other, laughter and smiling
- **Cooperation Task** measures: faster coordination of button presses reflects better cooperation
- **Questionnaires** capture pre-existing factors (culture, musical engagement and sibling relationship)

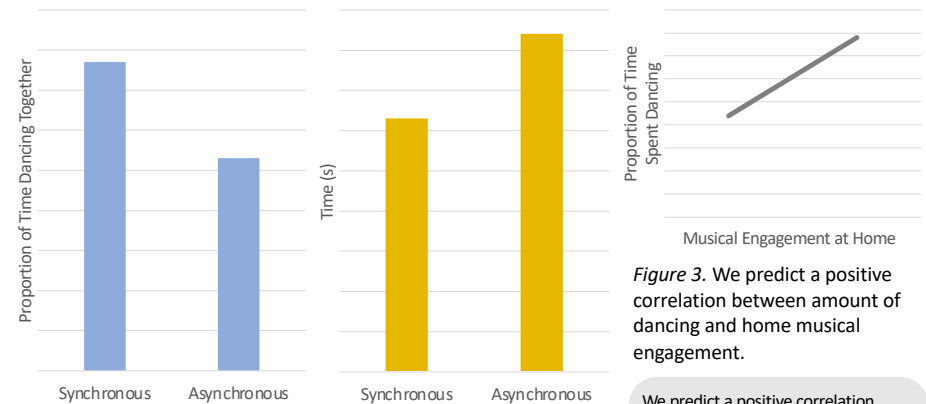


Figure 1. We predict that siblings in the synchronous music condition will dance together more than siblings in the asynchronous music condition.

Figure 2. We predict that siblings in the synchronous music condition will take less time to complete the cooperation task than asynchronous siblings.

Figure 3. We predict a positive correlation between amount of dancing and home musical engagement.

We predict a positive correlation between how encouraged recreational dance is in the child's culture and amount of dancing. We will explore qualitative and quantitative reports about cultural differences around dance.

DISCUSSION

- If the hypothesis of (a)synchronous music and cooperation is **supported**, then the directionality between sibling prosociality and musical play will be clearer (Cirelli, Peiris et al., 2020).
- If the hypothesis is **not supported**, then it may indicate that synchrony is not as effective at influencing previous relationships (e.g. siblings), despite its usefulness at helping create new ones

IMPLICATIONS & FUTURE DIRECTIONS

- These results will inform theories about how culture, experience, and social context shape early musical play, and how musical play contributes to social bonding in the home.
- Given the importance of sibling relationships across the lifespan, understanding how everyday experiences shape sibling cohesion will be useful for parents, care providers, and educators.

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